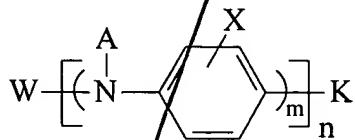


WHAT IS CLAIMED IS:

1. A method of inhibiting the growth of tumor cells in a tumor site of a subject, comprising administering to the tumor site an effective amount of an oligoaniline having the following formula:



wherein

m is an integer of 1-6;

n is an integer of 1-10;

each A is -H, -Z, -CH₂-CO-OH, -CH₂-CO-O-Z, -CH₂-CO-S-Z, -CH₂-CO-NH₂, or -CH₂-CO-NH-Z; and each X is -H, -O-Z, -S-Z, -NH-Z; Z being -E-D, wherein E is -R-, -R-Ar-, -Ar-R-, or -Ar-; and D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, -O-PO(O⁻)-O-CH₂CH₂NH₃⁺, -glycoside, -OCH₃, -OCH₂(CHOH)₄-CH₂OH, -OCH₂(CHOH)₂-CH₂OH, -C₆H₅(OH)₂, -NH₃⁺, -N⁺H₂R_b, -N⁺HR_bR_c, or -N⁺R_bR_cR_d, each of R, R_b, R_c, and R_d, independently, being C₁₋₃₀ alkyl; and Ar being aryl;

W is -H, -CO-B, -CH₂CH(OH)-B, -CO-NH-B, -CS-NH-B, -CO-O-B, CO-CH₂-CH(CO₂H)-B, -CH₂-B, -SO₂-B, wherein B is -R₁-O-[Si(CH₃)₂-O-]₁₋₁₀₀, C₁₋₂₀₀₀ alkyl, C₆₋₄₀ aryl, C₇₋₆₀ alkylaryl, C₇₋₆₀ arylalkyl, (C₁₋₃₀ alkyl ether)₁₋₁₀₀, (C₆₋₄₀ aryl ether)₁₋₁₀₀, (C₇₋₆₀ alkylaryl ether)₁₋₁₀₀, (C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, (C₁₋₃₀ alkyl thioether)₁₋₁₀₀, (C₆₋₄₀ aryl thioether)₁₋₁₀₀, (C₇₋₆₀ alkylaryl thioether)₁₋₁₀₀, (C₇₋₆₀ arylalkyl thioether)₁₋₁₀₀, (C₂₋₅₀ alkyl ester)₁₋₁₀₀, (C₇₋₆₀ aryl ester)₁₋₁₀₀, (C₈₋₇₀ alkylaryl ester)₁₋₁₀₀, (C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-CO-O-(C₁₋₃₀ alkyl ether)₁₋₁₀₀, -R₁-CO-O-(C₆₋₄₀ aryl ether)₁₋₁₀₀, -R₁-CO-O-(C₇₋₆₀ alkylaryl ether)₁₋₁₀₀, -R₁-CO-O-(C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, (C₄₋₅₀ alkyl urethane)₁₋₁₀₀, (C₁₄₋₆₀ aryl urethane)₁₋₁₀₀, (C₁₀₋₈₀ alkylaryl urethane)₁₋₁₀₀, (C₁₀₋₈₀ arylalkyl urethane)₁₋₁₀₀, (C₅₋₅₀ alkyl urea)₁₋₁₀₀, (C₁₄₋₆₀ aryl urea)₁₋₁₀₀, (C₁₀₋₈₀ alkylaryl urea)₁₋₁₀₀, (C₁₀₋₈₀ arylalkyl urea)₁₋₁₀₀, (C₂₋₅₀ alkyl amide)₁₋₁₀₀, (C₇₋₆₀ aryl amide)₁₋₁₀₀, (C₈₋₇₀ alkylaryl amide)₁₋₁₀₀, (C₈₋₇₀ arylalkyl amide)₁₋₁₀₀, (C₃₋₃₀ alkyl anhydride)₁₋₁₀₀, (C₈₋₅₀ aryl anhydride)₁₋₁₀₀, (C₉₋₆₀

alkylaryl anhydride)₁₋₁₀₀, (C₉₋₆₀ arylalkyl anhydride)₁₋₁₀₀, (C₂₋₃₀ alkyl carbonate)₁₋₁₀₀,
(C₇₋₅₀ aryl carbonate)₁₋₁₀₀, (C₈₋₆₀ alkylaryl carbonate)₁₋₁₀₀, (C₈₋₆₀ arylalkyl carbonate)₁₋₁₀₀,
-R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀
alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-
5 (C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-O-
CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl
ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-O-CO-NH-
10 (R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or
C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-R₃O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-
(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or
C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-(C₂₋₅₀ alkyl ester,
C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-NH-CO-NH-(R₂ or
Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀
arylkyl ether)₁₋₁₀₀-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-(R₂ or Ar-
15 R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀
arylkyl ester)₁₋₁₀₀-R₃O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-O-CO-NH-(R₂ or
Ar-R₂-Ar)-NH-CO-NH-(C₂₋₅₀ alkyl amide, C₇₋₆₀ aryl amide, C₈₋₇₀ alkylaryl amide, or
C₈₋₇₀ arylalkyl amide)₁₋₁₀₀, or -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-NH-(C₂₋₅₀ alkyl
amide, C₇₋₆₀ aryl amide, C₈₋₇₀ alkylaryl amide, or C₈₋₇₀ arylalkyl amide)₁₋₁₀₀; wherein each
20 of R₁, R₂, and R₃, independently, is C₁₋₃₀ alkyl; and Ar is aryl;

K is -H, -[N(X)-C₆H₄]₁₋₃-NH₂, -[N(X)-C₆H₄]₁₋₃-NH-C(=S)-SH, -[N(X)-C₆H₄]₁₋₃-
N=CH-Ar-SH, or -[N(X)-C₆H₄]₁₋₃-NH-CO-Ar-SH, wherein X is -H, -Z, -CH₂-CO-OH,
-CH₂-CO-O-Z, -CH₂-CO-S-Z, -CH₂-CO-NH₂ or -CH₂-CO-NH-Z; and Ar is aryl;
and subsequently exposing the tumor site to irradiation.

25

2. The method of claim 1, wherein A is -Z, -CH₂-CO-O-Z, -CH₂-CO-S-Z, or -CH₂-CO-NH-Z; wherein E is -R- or -R-Ar-; and D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, or -NH₃⁺.
- 30 3. The method of claim 1, wherein m is an integer of 2-6.

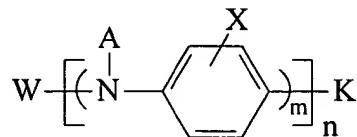
JULIA P.

CONFIDENTIAL INFORMATION

4. The method of claim 1, wherein n is an integer of 1-6.
5. The method of claim 2, wherein A is -Z, Z being -E-D, wherein E is -R-, or -R-Ar-; and
5 D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -P(OH)₃, -PO(OH)₂,
-O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, or -NH₃⁺.
6. The method of claim 2, wherein n is an integer of 1-6.
7. The method of claim 2, wherein m is an integer of 2-6.
10
8. The method of claim 6, wherein m is an integer of 2-6.
9. The method of claim 5, wherein E is -R-; and D is -SO₃H, -OSO₃H, -CO₂H, -O-PO(OH)₂,
15 or -O-PO(OH)-O-PO(OH)₂.
10. The method of claim 5, wherein m is an integer of 2-6.
20
11. The method of claim 5, wherein n is an integer of 1-6.
12. The method of claim 9, wherein E is -C₃H₆-; D is -SO₃H; n is an integer of 1-6; and m is
an integer of 2-6.
25
13. The method of claim 12, wherein m is 4.
14. The method of claim 13, wherein each of W, X, and K is H.
15. The method of claim 3, wherein m is 4.
30
16. The method of claim 3, wherein n is an integer of 1-6.

17. The method of claim 15, wherein n is an integer of 1-6.

18. A pharmaceutical composition for inhibiting the growth of tumor cells, comprising a compound of the following formula:



wherein

m is an integer of 1-6;

n is an integer of 1-10;

each A is -H, -Z, -CH₂-CO-OH, -CH₂-CO-O-Z, -CH₂-CO-S-Z, -CH₂-CO-NH₂, or

10 -CH₂-CO-NH-Z; and each X is -H, -O-Z, -S-Z, -NH-Z; Z being -E-D, wherein E is -R-, -R-Ar-, -Ar-R-, or -Ar; and D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, -O-PO(O⁻)-O-CH₂CH₂NH₃⁺, -glycoside, -OCH₃, -OCH₂(CHOH)₄-CH₂OH, -OCH₂(CHOH)₂-CH₂OH, -C₆H₅(OH)₂, -NH₃⁺, -N⁺H₂R_b, -N⁺HR_bR_c, or -N⁺R_bR_cR_d, each of R, R_b, R_c, and R_d, independently, being C₁₋₃₀ alkyl; and Ar being aryl;

15 W is -H, -CO-B, -CH₂CH(OH)-B, -CO-NH-B, -CS-NH-B, -CO-O-B, CO-CH₂-CH(CO₂H)-B, -CH₂-B, -SO₂-B, wherein B is -R₁-O-[Si(CH₃)₂-O-]₁₋₁₀₀, C₁₋₂₀₀₀ alkyl, C₆₋₄₀ aryl, C₇₋₆₀ alkylaryl, C₇₋₆₀ arylalkyl, (C₁₋₃₀ alkyl ether)₁₋₁₀₀, (C₆₋₄₀ aryl ether)₁₋₁₀₀, (C₇₋₆₀ alkylaryl ether)₁₋₁₀₀, (C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, (C₁₋₃₀ alkyl thioether)₁₋₁₀₀, (C₆₋₄₀ aryl

20 thioether)₁₋₁₀₀, (C₇₋₆₀ alkylaryl thioether)₁₋₁₀₀, (C₇₋₆₀ arylalkyl thioether)₁₋₁₀₀, (C₂₋₅₀ alkyl ester)₁₋₁₀₀, (C₇₋₆₀ aryl ester)₁₋₁₀₀, (C₈₋₇₀ alkylaryl ester)₁₋₁₀₀, (C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-CO-O-(C₁₋₃₀ alkyl ether)₁₋₁₀₀, -R₁-CO-O-(C₆₋₄₀ aryl ether)₁₋₁₀₀, -R₁-CO-O-(C₇₋₆₀ alkylaryl ether)₁₋₁₀₀, -R₁-CO-O-(C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, (C₄₋₅₀ alkyl urethane)₁₋₁₀₀, (C₁₄₋₆₀ aryl urethane)₁₋₁₀₀, (C₁₀₋₈₀ alkylaryl urethane)₁₋₁₀₀, (C₁₀₋₈₀ arylalkyl urethane)₁₋₁₀₀, (C₅₋₅₀ alkyl

25 urea)₁₋₁₀₀, (C₁₄₋₆₀ aryl urea)₁₋₁₀₀, (C₁₀₋₈₀ alkylaryl urea)₁₋₁₀₀, (C₁₀₋₈₀ arylalkyl urea)₁₋₁₀₀, (C₂₋₅₀ alkyl amide)₁₋₁₀₀, (C₇₋₆₀ aryl amide)₁₋₁₀₀, (C₈₋₇₀ alkylaryl amide)₁₋₁₀₀, (C₈₋₇₀ arylalkyl amide)₁₋₁₀₀, (C₃₋₃₀ alkyl anhydride)₁₋₁₀₀, (C₈₋₅₀ aryl anhydride)₁₋₁₀₀, (C₉₋₆₀ alkylaryl anhydride)₁₋₁₀₀, (C₉₋₆₀ arylalkyl anhydride)₁₋₁₀₀, (C₂₋₃₀ alkyl carbonate)₁₋₁₀₀, (C₇₋₅₀ aryl

carbonate)₁₋₁₀₀, (C₈₋₆₀ alkylaryl carbonate)₁₋₁₀₀, (C₈₋₆₀ arylalkyl carbonate)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-R₃-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-R₃O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-R₃O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-NH-(C₂₋₅₀ alkyl amide, C₇₋₆₀ aryl amide, C₈₋₇₀ alkylaryl amide, or C₈₋₇₀ arylalkyl amide)₁₋₁₀₀, or -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-NH-(C₂₋₅₀ alkyl amide, C₇₋₆₀ aryl amide, C₈₋₇₀ alkylaryl amide, or C₈₋₇₀ arylalkyl amide)₁₋₁₀₀; wherein each of R₁, R₂, and R₃, independently, is C₁₋₃₀ alkyl; and Ar is aryl;

K is -H, -[N(X)-C₆H₄]₁₋₃-NH₂, -[N(X)-C₆H₄]₁₋₃-NH-C(=S)-SH, -[N(X)-C₆H₄]₁₋₃-N=CH-Ar-SH, or -[N(X)-C₆H₄]₁₋₃-NH-CO-Ar-SH, wherein X is -H, -Z, -CH₂-CO-OH, -CH₂-CO-O-Z, -CH₂-CO-S-Z, -CH₂-CO-NH₂ or -CH₂-CO-NH-Z; and Ar is aryl; and
a pharmaceutically acceptable carrier

25 19. The pharmaceutical composition of claim 18, wherein A is -Z, -CH₂-CO-O-Z, -CH₂-CO-S-Z, or -CH₂-CO-NH-Z; E is -R- or -R-Ar-; and D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, or -NH₃⁺.

20. The pharmaceutical composition of claim 19, wherein A is -Z; E is -R-; and D is -SO₃H,
-OSO₃H, -CO₂H, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, or -O-PO(OH)-O-
PO(OH)₂.

21. The pharmaceutical composition of claim 20, wherein E is -C₃H₆-; D is -SO₃H; n is an
integer of 1-6; m is an integer of 2-6; and each of W, X, and K is H.

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